

IN THE DRAWINGS

The Examiner has required that the drawings be amended so that the sole drawing be labeled as "Figure" instead of as "Figure 1" as was shown in the application as filed. Therefore, a substitute drawing sheet has been submitted herewith wherein the only change was to label the sole Figure as "Figure" instead of "Figure 1."

Entry of this substitute drawing sheet is therefore respectfully requested.

REMARKS

Responsive to the outstanding Office Action, applicant has carefully studied the Examiner's rejections. Claim 1 has been amended herein. The drawing has been amended as has the specification. Favorable reconsideration of the application in light of the following detailed arguments is respectfully requested.

OBJECTIONS TO THE DRAWINGS AND SPECIFICATION

The Examiner objected to the specification and drawings for referring to the sole figure as figure 1. Additionally, the Examiner noted that the application lacked a Brief Description of the drawings.

In response thereto it is noted that when the application was filed, a subject heading referring to the "Brief Description of the Drawings" was entered but the text corresponding thereto was inadvertently omitted. Therefore, text corresponding to this section has been submitted herewith.

Further, a substitute drawings sheet has been submitted, referencing the "Figure" instead of "Figure 1". Upon approval by the Examiner, substitution of this new drawing sheet for the drawings sheet currently on file is respectfully requested.

Paragraphs 19 and 22 of the specification have been amended to refer to "the figure" instead of "Figure 1". It is therefore submitted that formalities relating to the drawings and specification have been complied with and the objections have thus been overcome.

REJECTION OF CLAIMS UNDER 35 USC §112

Claims 1-5 have been rejected under 35 USC §112 for being indefinite. In response thereto, claim 1 has been amended to provide antecedent basis for "tail gas" and to remove the language "said configuration". Claim 4 has been amended to remove the language "said machine". Claim 1 has further been amended to remove any indefiniteness regarding whether the device actually heats the tail gas or is merely "intended" to. It is therefore believed that the claims fully comply with the requirements of 35 USC §112, second paragraph, and it is respectfully requested that this rejection be reconsidered and withdrawn.

REJECTION OF CLAIMS UNDER 35 USC §103

In the outstanding Office Action, the Examiner rejected claims 1-5 under 35 USC §103 as being unpatentable over Shields in view of EP 301844. Shields discloses a process wherein the expansion of tail gas takes place in two steps, but these two steps are thermodynamically different from those claimed in the present invention. In shields, there is no heat transfer into the gas stream between the expansion steps. The use of two (or more) gas turbines and heating the gas stream between them, as claimed herein, provides an effectiveness which is equivalent to a hypothetical single gas turbine which would be operated at a much higher temperature. It should be noted, however, that there is no such single gas turbine available which would generate this effectiveness and operate at the necessary temperature.

Claim 1, as amended, defines a process for the production of nitric acid with a concentration of 50 to 76% from ammonia and oxygen-bearing gas under pressure, using the mono or dual pressure process. Tail gas is expanded wherein the expansion takes place in at least two pressure steps, thereby converting the heat of the gas to energy by means of gas turbines operating at different pressure. A device is provided between every two gas turbines and heats the expanded tail gas to a temperature of $>450^{\circ}\text{C}$, the system exploiting the waste heat from the nitric acid production process.

Claim 1 has been amended to clarify the subject matter being claimed. Claim 1 now clearly defines the presence of gas turbines operating at different pressures and the exploitation of waste heat from the production process.

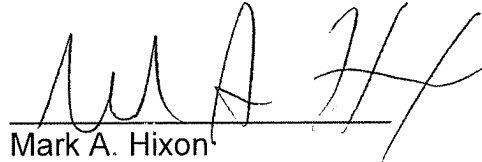
The Examiner uses the EP reference to modify Shields by adding supplementary hot gas between the expansion units 9 and 10. Applicants do not disagree with the analysis of the EP reference, but respectfully submit that even if Shields could be modified as shown in the EP reference, such modification would not show the invention as claimed in amended claim 1. Therefore, it is respectfully submitted that no reasonable combination of Shields and EP 301844 teaches the invention as claimed in amended claim 1.

As claims 2-5 depend, directly or indirectly, from an allowable claim 1, it is submitted that those claims are allowable based, at least, upon their dependence from an allowable base claim.

SUMMARY

It is believe that the above amendments place the application in condition for allowance. Should the Examiner wish to modify the application in any way, applicant's attorney suggests a telephone interview in order to expedite the prosecution of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'MA HX', is written over a horizontal line.

Mark A. Hixon
Registration No. 44,766

ATTORNEYS

Marshall & Melhorn, LLC
Four SeaGate - 8th Floor
Toledo, Ohio 43604
(419) 249-7114
(419) 249-5171 Facsimile